

JPRS-TEP-90-013
14 SEPTEMBER 1990



FOREIGN
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JPRS Report

Epidemiology

DISTRIBUTION STATEMENT A

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19981211097

REPRODUCED BY
U.S. DEPARTMENT OF COMMERCE
NATIONAL TECHNICAL INFORMATION SERVICE
SPRINGFIELD, VA. 22161

DTIC QUALITY INSPECTED 3

Epidemiology

JPRS-TEP-90-013

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ANGOLA

Huambo Residents Facing Food Shortage, Disease

MB1908144490 (Clandestine) KUP in English to Southern and Central Africa 1215 GMT 19 Aug 90

[Text] Jamba Residents in Angola's second largest city, Huambo, are exchanging personal belongings with scarce food supplies at black markets in order to avert starvation.

Informed KUP sources in the city said the serious hunger among residents is forcing them to sell furniture and personal clothes in exchange for the little foodstuffs available at black markets. A normal cupful of maize is selling for between 8,500 to 9,000 kwanzas.

The MPLA [Popular Movement for the Liberation of Angola] regime's commerce department which runs state-owned shops have no basic commodities to satisfy the needs of the population of this city.

As the hunger grip continues, there are reports of renewed outbreaks of cholera and malaria among residents in Benfica, Kakelewa, Kalomanda, Chiva and Bom Pastor suburbs. The death toll resulting from these diseases is reported to be steadily rising. But Huambo central hospital is said to be doing little to prevent the deaths due to critical shortages of medicines especially anti-biotics and anti-malaria.

Meanwhile, MPLA's Central Committee members are reported to have each received expensive modern Mercedes Benz or Toyota Turo cars to travel in luxury at the expense of tens of thousands of Angolans whose children are daily drafted into FAPLA [People's Liberation Armed Forces of Angola] army to try to maintain the Cuban-installed minority Luanda Government.

KENYA

Highland Malaria Outbreak Kills 18 in Trans Nzoia

90WE0269A Nairobi TAIFA LEO in Swahili 3 July 90 p 1

[Text] The head of the Trans Nzoia District, Mr. Nicholas Mberia, said yesterday that Highland Malaria has spread there and has killed 18 people between June 20-29 this year. Another 4,150 were treated for the disease during that period.

Mr. Mberia said during a news conference in his office in Kitale that these deaths happened in the areas of Nzoia, Kapkeikei, and Chepsiro in the district of Cherangani. He explained that these areas border on Uasin Gishu District where this malaria has occurred.

The minister said a group of health officials have been sent into these areas to treat the sick and to prevent the spread of the contagious disease. He said more than 100 health officials were sent into this area between June

20th and 30th to take care of those who have come down with this disease and more are being sent into Saboti District. He assured the workers of these areas that the government was doing its best to end this disease and they must not doubt that.

Mr. Mberia called on the workers in the district to join with health ministry officials in their campaign to eradicate this disease. "It's really those with the disease who will be expected to pay their hospital bills, who must cut down the bushes, and get rid of the standing water in order to remove the breeding grounds of the mosquitos that carry malaria," said the head of the district. He urged the leaders of this area to help in fighting malaria and to report everything about it to the department of health.

Highland Malaria is found in various areas of the country in addition to the districts of Uasin Gishu, Kakamega, Kericho, and others where it is able to kill, especially children when it is not treated. It is said that this illness is dangerous to those who fail to go quickly for treatment or to those with weak constitutions.

MAURITIUS

Hospitals Hit; Goburdhun Resignation Suggested

90AF0433Z Port Louis L'EXPRESS in French 8 Jul 90 pp 1, 5

[Unattributed article: "Grumbling and Frustration Among Hospital Administrators"; first two paragraphs are L'EXPRESS introduction; passages within slantlines published in English]

[Text] The source of the problem: the administrative system currently in force in which all power is said to be in the hands of the /regional health directors/.

"The firing of Goburdhun might be the solution."

The premature departure on 1 July of Mr. A. Nathay, administrator of Cados Hospital, following those of Gassin, Bissessur, Jean-Louis (deceased), and Khodaboccus, causes a profound malaise these days among this category of officials. According to information gathered by L'EXPRESS, frustration, grumbling, and lack of motivation have reached a peak among these officials.

According to reliable sources, this frustration of hospital administrators is due to the administrative system currently in force in which all administrative power is said to be concentrated in the hands of the /regional health directors/.

These same circles feel that if the government does not take action as soon as possible, the situation in the hospitals will deteriorate. The public will suffer the /consequences/, they added. Perhaps the solution would be for the government simply to dismiss the minister of health, Mr. J. Goburdhun.

They feel that the minister is part of a bad system. Some say that the minister did not do anything to try to change the health administration system. There has been a gradual erosion of resources targeted for the hospitals to the benefit of community health centers.

These same circles feel that the ministry should first of all have consolidated the hospital /structure/ before committing itself to the implementation of a program of creating community health centers throughout the island.

Scapegoats

These same circles stated that the Ministry of Health system, as it currently exists, has turned the administrators into scapegoats when things go wrong.

Among the grievances of the hospital administrators, one should note:

- the disparity between salary and the responsibility they have to assume;
- the status of the administrators who, under the current circumstances, cannot legitimately assume their professional responsibilities;
- the current system is a hindrance to management according to the international norms of hospital management. Thus it is currently impossible to create an environment in which the /public/ would have an efficient health service at its disposal;
- the lack of means of transportation to visit the subsidiary hospitals and community health care centers scattered across the island;
- the slowness of the Ministry of Health in filling some 300 vacant "/hospital attendant/" positions and 100 vacant service positions;
- the state project to implement a modern administration formula at the Rose-Bell Hospital, while the archaic system would remain in force at the other hospitals;
- the refusal to make a clear-cut distinction between management as a full-fledged profession and the role of the doctors;
- the lack over these last 12 years of a retraining plan for the administrators. With the departure of Mr. Nathay, it could be that three administrators will take on the work of 12, required for the health service, including the regional administrators.

Responsibilities

The administration of a regional hospital, placed under the direct responsibility of a "/regional health director/", is divided into three sections, which are the direct responsibility of the same "regional health director". First, there are the medical responsibilities of the chief hospital manager, then there are those of the "/nursing administrators/" and of the hospital administrator.

In addition to his primary responsibility, the "/regional health director"/ concerns himself with everything related to the /medical/ side. On the average, he is in

charge of about 80 doctors. There are two "/nursing administrators/" for the male and female nurses. They are assisted by eight "/nursing supervisors/", for approximately 400 personnel.

As for the "/hospital administrator/", he manages directly an average of 600 individuals, employees whose responsibility does not relate directly to medicine.

The task of the administrator relates to a whole series of responsibilities: financial management, all the hospital's personnel, public relations, relations with the unions, conception, implementation and follow-up of projects, building maintenance, "/catering/", laundry, equipment replacement for all departments, both medical and administrative.

He also concerns himself with the "/hospital districts/", in addition to about 20 to 30 "/health centers/".

The administrators feel that the fact of being a doctor does not necessarily mean that the individual has any predispositions to assume administrative functions, given that management is a profession in and of itself.

The administrators who currently occupy those positions were specifically trained to this effect in England.

These same circles stressed that an improvement of the health services will require, among other things, the gradual implementation of the recommendations included in the /Management Audit Bureau/ (MAB) report and an in-depth review of the concept of administration as currently in force in the Ministry of Health.

MOZAMBIQUE

Cholera Kills Four, Affects 52 in Quelimane City
MB0908130290 *Maputo Domestic Service in Portuguese*
1030 GMT 9 Aug 90

[Text] The number of cholera cases in Zambezia Province's Quelimane city has risen to 52. The number of people killed by cholera has risen to four.

A source in the Health Ministry reported today that 792 cholera cases and 31 cholera-related deaths have been recorded in Tete. Beira currently has 142 cholera cases. The disease has killed 21 people there.

The Health Ministry source also said that the epidemic is under control in Tete and Beira cities.

SEYCHELLES

Doctor Shortage Expected to Improve
90WE0280 *Victoria SEYCHELLES NATION*
in English 16 Jun 90 pp 1, 2

[Text] Health Principal Secretary Conrad Shamlaye has acknowledged that patients often had to wait too long at clinics before being attended to but said this was linked

to the limited number of available doctors and nurses as well as administration shortcomings.

Interviewed in the *Fas Avek Lapres* programme, a new television series in which journalists quiz senior officials on how their ministries or organisations are being run, Dr Shamlaye said that the number of doctors was steadily going up though it was proving more difficult to recruit nurses.

He urged the public to be more cooperative as efforts are stepped up to find solutions to the problems.

Dr Shamlaye noted that too many patients called at clinics early in the morning without appointments and it was obvious they had to wait as the doctors could not be expected to see everyone at the same time.

"But I understand people's frustrations when they are not properly informed as to when they can expect medical attention, and only after a long wait are told they must still hang around for another hour or so," he told reporters, explaining there should be better communication between some health personnel and the public.

Dr Shamlaye also said the appointments system was not working as it should and it was not uncommon for patients to be told they could only be attended to in 2 or 3 days time.

He explained this was also linked to the availability of doctors while the fact that patients preferred to report to clinics was not conducive to easing the problem.

The health principal secretary noted that some clinics had tried remaining open until 5:00 p.m. for appointments with people coming from work in mind, but this had not proved popular.

Obviously the waiting time was generally longer at such clinics as *Riviere Anglaise* as it catered for a much bigger population than others, estimated at over 16,000, he pointed out.

Noting that there were now more doctors than ever before to cope with both the increase in population and the expansion in health services, Dr Shamlaye said there were presently about 60 medical officers in the country, compared to 40 only 4 years ago.

However, he said most of the doctors were expatriates who did not generally stay for long, and in some cases were not adapted to Seychelles' conditions or at times had problems of communication because of their inability to speak the local language.

"It is not always easy to assess a doctor to find out how well he or she will adapt to our needs," Dr Shamlaye said, adding his ministry was thinking of interviewing applicants abroad before appointing them.

The health principal secretary noted that in instances where doctors were found to be unsuitable after arriving

in Seychelles, it was not easy to find replacements as the period of notice was only 1 month.

He said the solution was for Seychelles to have its own doctors, adding that some 20 Seychellois students were presently studying medicine abroad and are expected back over the next 5 years or so.

"Some newly-qualified Seychellois doctors are already doing a good job and showing a lot of goodwill," Dr Shamlaye said, pointing out that it was everybody's duty to encourage those who have returned home after completing their studies as well as others planning to do so.

He said doctors' salaries have recently been increased and the newly qualified Seychellois, will in addition be given the opportunity to specialise after 2 years local practical experience.

SOUTH AFRICA

Efforts Fail To Curb TB Epidemic in Cape

90WE0292B Cape Town *THE ARGUS* in English
27 Jul 90 p 13

[Article by Andrea Weiss]

[Text] The tuberculosis epidemic will rage in the Western Cape for many years despite serious efforts to curb its progress.

That Cape Town has a problem is illustrated by the incidence rate (545 infected people for every 100,000) which is double the national average of 244 infected people for every 100,000.

At the Medical Research Council, Dr John Seager confirmed that although TB appeared to be decreasing in most parts of the country, it was definitely on the increase in Cape Town.

While this might seem an easy observation to make, he pointed out that notifications could be distorted unless they were read in conjunction with population increases. Also, over-zealous notification could swell the figures.

Mortality Rate

In the Western Cape, though, there was a marked upturn of the disease in 1980. While absolute figures are unknown, the increase in TB could be higher in the black population.

But, according to Dr Seager, there aren't any strong theories to explain the epidemic.

Living conditions cannot be said to be dramatically different from some other parts of the country and the infant mortality rate has been shown to be dropping.

One possibility is that because of the long incubation period of TB, the epidemic's roots lie in history and in the urbanisation of the so-called coloured population in the 1950's.

The attendant poor socio-economic circumstances, particularly with regard to overcrowding and malnutrition, may have served as a breeding ground for the disease.

If this is so, today's rapid urbanisation in areas like Khayelitsha means another epidemic looms on the horizon.

Infect Others

MRC epidemiologist Dr Derek Yach has pointed out that children from rural areas arriving in shack settlements tend not to be immunised and have a low nutritional status, putting them at risk of diseases like TB and measles.

Cape Town City Council medical officer of health Dr Michael Popkiss believes the closure of beds in the mid-1970's and the move towards out-patient treatment aggravated Cape Town's TB problem.

He said that in the '60s and '70s, TB appeared to be under control but then over a 1,000 beds were closed to patients for hospitalisation meaning that more people were being treated on an out-patient basis.

So-called "compliance rates" for out-patient treatment are in the region of 70 to 80 percent, which means that about 20 to 30 percent of ill patients drop out, some before they even start.

Thus they remain in the community to infect others and become harder to cure because they build up a resistance to the drugs (in the same way a person who does not complete a course of antibiotics would).

The out-patient system means people with TB are expected to collect medication from a clinic or their employment five days a week for a period of six months.

Said Dr Popkiss: "It is pretty obvious that if a lot of people who are infectious are not in hospitals and not getting adequate treatment, they are going to be infecting children. In turn, many of this infected pool of children will fall ill in later years."

In his view, TB is still a disease of poverty and "an upturn in the economy will do much more good than all the pills and medication in the world."

His sentiments are echoed by his colleague Dr Stewart Fisher, medical officer of health for the Regional Services Council which covers areas like Khayelitsha and Cross Roads, who said: "All the funds in the world on the medical side are not going to do much good unless socio-economic conditions improve."

But what can be done that is already not being done?

In Cape Town, babies are immunised at birth; patients are treated on an out-patient basis and their contacts followed up and a special programme involving community workers has been set up in Elsies River (another is

planned for Khayelitsha). The opening of the DP Marais Centre means 300 new beds will be available for patients.

While in the United States partial treatment is used on infected children, trials on full treatment of children in South Africa are on going in Elsies River.

The children who have been infected with TB are treated even though they may not have developed the disease. This prevents them from developing TB later in life and from reinfecting others.

A spokesman for the Department of National Health and Population Development said this route was unlikely to be followed because the first priority was still to find and treat those who were ill.

But if trials, currently being conducted by the MRC, show a positive effect, the department would be "open to changing our minds."

"TB in Africa is going to be with us for a very long time. The lessons we are beginning to learn are firstly that treatment must be community based and TB treatment should be more integrated into primary care services," he said.

Human TB is caused by breathing in infected droplets containing *Mycobacterium tuberculosis* excreted by untreated or inadequately treated patients who have developed the disease.

Not everybody who becomes infected develops tuberculosis disease.

People in privileged populations who have been exposed to TB have a lifetime risk of only about 5 to 15 percent. By comparison, infected people from deprived communities run a 50 percent risk in first-ever epidemics.

People who are on treatment or who have not developed the disease are not infectious to others and pose no public danger.

"There should be no stigma attached to this disease," Dr Popkiss says.

There are at least 10 million infected people in this country.

SWAZILAND

Official Reports 'Dramatic' Decrease in Malaria Deaths

MB2508100890 Mbabane THE SWAZI NEWS
in English 25 Aug 90 p 24

[Report by Gordon Mbali; "Malaria Deaths Are Down"]

[Text] Malaria deaths have dropped from 43 between 1988-89 to seven between 89-90, the Malaria Programme Manager, Mr Simon Kunene said yesterday.

Mr Kunene said the dramatic decrease can be credited to residual spraying of areas affected by the mosquitos.

He said people found to be affected by malaria between 1988-89 were 5,500 with 43 deaths while between 1989-90, a total of 2,500 people with only seven deaths so far.

Mr Kunene who was speaking at the official opening of the first phase of the Malaria, Operational and Research Centre at Big Bend. [sentence as published]

The centre was built with funds from the South African government which donated E[emalangeni]20,000 to the Ministry of Health.

The centre, christened Engcayizivela Malaria Control project, was officially opened by the Minister for Health Dr Fanny Friedman. The SA Trade Mission representative, Mr Ettiene du Toit was also present.

Speaking at the function, Dr Friedman said her ministry would like to see the malaria deaths reaching a zero mark in the years to come.

The minister appealed to all people involved in the combating of the spread of malaria in the country to work hard to eradicate the disease. Dr Friedman said malaria is one of the endemic disease that is found particularly in the African continent and as such, any programmes aimed at combating such a disease must be praised.

She urged those involved in the combating of the disease to focus on new strategies of combating the disease, in that in most cases, the virus has developed resistance to pesticides.

Mr du Toit, on behalf of the South African Government said the South African Government is serious in its efforts to develop the Southern African region.

He said the co-operation between the Kingdom of Swaziland and the Republic of South Africa in the field of health started in 1987 when the ministry of health made an official request to South Africa for assistance in the control of malaria.

ZAMBIA

Twenty Three Cholera Patients Treated in One Week

90WE0267A Lusaka TIMES OF ZAMBIA in English
12 Jun 90 p 1

[Article by Kondwani Chirambo]

[Excerpt] Lusaka's University Teaching Hospital (UTH), plagued by congestions, lack of facilities and a staff exodus needs K1 billion to operate effectively.

UTH acting executive director Dr Isiah Yikona revealed yesterday that the K200 million allocated to the institution has already been exhausted.

"Now we need K1 billion to operate efficiently and effectively," he said in an interview during a tour of the filter clinic by Zambia National Commercial Bank (ZNCB) managing director Cde Friday Ndhlovu.

The ZNCB pledged to renovate the hospital's over-congested filter clinic with an initial K4 million.

Cde Ndhlovu, after touring the clinic, felt the figure should be increased because of the amount of repairs required.

Dr Yikona said the hospital has also "disappointingly" continued to receive cholera patients. Between May 29 and June 5 this year, 23 patients were treated of cholera.

The filter clinic, he said, receives an average of 2,000 patients a day but there are only two doctors supported by eight clinical officers.

"I need about ten doctors to run this clinic," he said as the ZNCB entourage was being led on an inspection of the ill-equipped and congested clinic.

The ZNCB will pump in K2 million for the renovation of the clinic this year and K2 million next year.

"From what I have seen, I will have to go back to the board of directors to ask for more funds," said Cde Ndhlovu.

Dr Yikona outlined the institution's main problems as:

—Congestion of the limited capacity worsened by the city's growing population now estimated at 1.2 million.

—Service at the satellite facilities like in outlaying clinics is not enough to supplement the UTH services.

—Medical care standards have fallen to "literally unacceptable levels" and this was worrying the board. Patients end up being sprawled on the floor.

—Training of students is affected by the unfavourable situation prevailing which included the poor standards and lack of staff.

"We don't have a realistic budget for running this situation," said Dr Yikona.

Apart from the K200 million, the UTH gets supplementary allocations. But the hospital only raises about K2 million every year from fees and Government is considering raising the amount.

[Passage omitted]

Twenty Cattle Die Daily From Tick-borne Disease
90WE0267C Lusaka TIMES OF ZAMBIA in English
11 Jun 90 p 1

[Text] Central Committee Member for Eastern Province Cde Maxwell Beyani has expressed concern at the number of cattle dying in the district from tick-borne diseases.

Addressing a meeting at Chief Zingalune's palace, Cde Beyani said at the rate animals were dying, he feared that farming might soon be difficult.

At least 20 animals have been reported dying every day in the district from east coast fever, red water and red heart diseases.

Cde Beyani said he was disappointed with cattle owners for refusing to take their cattle for dipping because the K5 per animal charged by the Government was nothing compared to the value of each animal.

"I am appealing to cattle owners to reserve some money for dipping so that they save their animals from dying," Cde Beyani said.

ZIMBABWE

Official Discusses Tsetse Fly Eradication Efforts
MB0108192890 Johannesburg SAPA in English 1750
GMT 1 Aug 90

[Text] Harare—An area of about 24,000sq km, stretching from the north-eastern part of Zimbabwe down to

Kariba, is still tsetse-fly infested, putting at risk the lives of 250,000 head of cattle.

Since 1981, tsetse-fly has been eradicated in an area of 50,000 sq kms, involving the use of ground and aerial spraying methods. Chief glossinologist (operations) in the Department of Veterinary Services' tsetse control branch, Mr William Shereni, told ZIANA national news agency that the national objective was to clear the entire country of the deadly fly.

A glossinologist is one who studies tsetse-fly behaviour.

"Tsetse-flies are a major constraint to development as people in the infested areas cannot breed livestock. Our national objective is to eradicate the entire country of this menace and we are looking at alternative pesticides to replace DDT, which according to international health regulations, can no longer be used.

"Trials have been made with Deltamethrine, a new pesticide, and the results are very encouraging. We used it in May and the tsetse-fly has been eradicated (in the areas where it was used)," said Mr Shereni.

He said new technologies, known as the target system, and the dipping of cattle into pesticides, which killed both ticks and the fly, were the best, adding the latter reduced tsetse-fly levels by about 90 percent.

Daily Notes Progress in Guizhou's Fight Against Leprosy

*OW2807083290 Beijing XINHUA in English 0728
GMT 28 Jul 90*

[Text] A total of 13,700 lepers in Guizhou Province in southwest China have been cured since 1981, the "PEOPLE'S DAILY" reported today.

The overseas edition of the paper quoted a survey report as putting the number of lepers in the province at 25,000 in 1981, making it the province with the most lepers in the country.

To eradicate the disease the Chinese Government has formed a package of medical services, and the World Health Organization as well as the American Leprosy Mission also assist the province.

Now Guizhou has two special leper hospitals, nine treatment stations at prefectural level, 86 county-level clinics and 62 other centers. It has also set up China's first special medical school to train medical workers in the treatment of leprosy.

According to the paper, the incidence of leprosy in the province has dropped to 0.17 per thousand, or 5,000 lepers, and they are receiving free treatment.

It is expected that the province will be free from the disease by the end of this century.

Minority Traditional Medicines Flourishing

*OW2007141790 Beijing XINHUA in English 0934
GMT 20 Jul 90*

[Text] After years of effort, the traditional medicine systems of the minority nationalities in China such as the Tibetans, Mongolians, Ugyurs, Kazaks, and Yis, have started to flourish again, according to the "PEOPLE'S DAILY" today.

There are now over 500 hospitals and clinics specializing in ethnic medicine throughout the country. They have more than 5,000 staff members and treat over one million patients every year.

The governments of provinces and autonomous regions with minority people living there, including Tibet, Qinghai, Inner Mongolia, and Xinjiang, have paid special attention to retrieving the traditional medicines of minority nationalities in the past few decades. They have edited and published 400,000 copies in 80 categories of medical classics of minority nationalities.

Special secondary schools of local medicine have been established in Qinghai, Xinjiang, and Inner Mongolia. The Tibet Autonomous Region has even set up a College of Tibetan Medicine, the first of its kind in China. More than 300 doctors of ethnic medicine have already graduated from these schools and the college.

Treatments of various kinds stemming from minority nationality medicine have proved to be extraordinarily effective for treating some diseases such as Hepatitis B and some kinds of mental disorder.

Henan's Tanghe County Works To Monitor Infectious Diseases

*OW1008095590 Beijing XINHUA in English 1436
GMT 9 Aug 90*

[Text] Zhengzhou—Nowadays, China can predict the occurrence and spread of some infectious diseases even more accurately than forecasting the weather.

This is the outcome of efforts made by 51 medical workers in Tanghe County in central China's Henan Province to monitor diseases over the past seven years. To master the patterns of infectious diseases and to improve prevention and treatment methods, the Henan provincial public health bureau made Zhangdian and Cangtai Townships in Tanghe County centers for disease monitoring at the end of 1983.

A network composed of the public health bureau and epidemic prevention station of Tanghe County, Zhangdian and Cangtai Township hospitals and 51 administrative villages was established. A total of 51 professional medical workers took part.

One result has been that epidemic cerebrospinal meningitis, which used to occur every eight to ten years in the area, had been brought under control before it reached its peak in the late 1980s.

Quick reaction in the province to monitoring of the disease cut the number of cases by 80,000, and the number of deaths caused by it was reduced by 4,000.

This achievement, which has been studied and promoted throughout China, was introduced at international academic seminars in Paris and Beijing. The system has also been recommended to Africa by international experts on epidemic cerebrospinal meningitis.

Last year the state Public Health Ministry made Tanghe County the nationwide disease monitoring center. Six townships, with 360,000 residents, are being closely monitored.

CAMBODIA

Radio Reports Outbreak of Dengue Fever

BK1408071390 Phnom Penh Domestic Service in Cambodian 0430 GMT 14 Aug 90

[Summary] In the last two weeks of July, 444 children in Phnom Penh were stricken by dengue fever. According to the Center for the Prevention of Epidemic Diseases, this year's rate has increased to about the same as in 1985 when this disease was widely spread. According to the deputy director of the Center, the cause of the disease is a type of mosquito combined with the past few days' rain, lack of hygiene, and the delay in clearing rubbish heaps in the city.

SOUTH KOREA

Epidemic Diseases Increase in South

SK0808155290 Pyongyang KCNA in English 1535 GMT 8 Aug 90

[Text] More than 3,600 typhoid cases, or double the number in the same period last year, broke out in South Korea in the first six months of this year, according to a report.

The number of the cases of measles and other epidemic diseases has also reportedly doubled.

The alarming prevalence of epidemic diseases in South Korea this year is attributable to the negligence of preventive measures by the puppet clique.

Ministry Issues Encephalitis Alert

SK2208023090 Seoul THE KOREA HERALD in English 22 Aug 90 p 3

[Text] The Ministry of Health and Social Affairs yesterday issued a nationwide warning against a possible outbreak of Japanese encephalitis as the density rate of Culex mosquitos, the main carrier of the summer disease, is on the rise in recent days.

Health personnel across the nation have been told to beef up disinfection activities against mosquitos, the ministry said.

People, especially the elderly and children, are warned against being bitten by mosquitos.

A survey conducted by the ministry showed that Culex mosquitos accounted for 65.7 percent of the total mosquito population in Chollanam-do during the third week of August, the highest in the nation.

LAOS

Dengue Outbreak in Vientiane Discussed

90WE0243C Vientiane VIENTIANE MAI in Lao 21 Jun 90 p 2

[Discussions column by S. Selanong: "Combating Dengue"]

[Excerpts] [passage omitted] Generally a dengue fever epidemic will last for two years, and those catching the disease are generally small children. In Vientiane Municipality in 1987 there was the worst epidemic of the disease in 10 years. In 1987 there were 5,200 with the disease, and of these 80 died. In 1989 the incidence was reduced to the point where only 86 had the disease and only one died. The reason for this reduction was the determined participation of the people in efforts to prevent the disease. However it is still not known whether the disease will spread in 1990 or not. We should be very cautious now because we are finding many young children with the disease.

The public health service and the social welfare service of Vientiane Municipality reported that at the beginning of last week there was one young child in Ban Donnoune Village, Saithani District, who died from dengue fever and that there was another from Ban Thinton Village, Hatsuifong District, being treated for it at Mahosot Hospital. This frightening news should warn us that there could be an epidemic of dengue fever this year. [passage omitted]

It was unfortunate that the measures taken to combat the disease by the people in the past were not vigorously carried through or correctly applied. In particular they were careless about keeping the environment of their homes clean. And even more serious there were some parents who let small children play where they wanted and be dirty. This was the reason that many small children contracted the disease so suddenly that they could almost not be saved. Since the public health service and social welfare service of Vientiane Municipality could not be responsible for this problem, they took the approach of warning and fining a number of parents.

Bolikhamxai Malaria Incidence Described

90WE0243B Vientiane PASASON in Lao 8 Jun 90 p 2

[Report by Thanoukham: "Bolikhamxai Public Health"]

[Excerpt] [passage omitted] Dr. Bounchan, a member of the administrative committee and head of the Bolikhamxai Province public health service told me that in the first five months of this year they had worked hard to suppress malaria among the people in four towns on the Mekong River: Pakse, Tha Phabat, Bolikham [and] Pakkading. These included 16 cantons and 62 villages. They conducted examinations and distributed medicine to more than 10,000 people in the targeted area. They tested the blood of more than 6,200 people and found

malaria in more than 2,400 people. These efforts reduced the incidence of malaria among the people of these localities by 13 percent. There was no change during the same period [in areas used] for comparison. [passage omitted]

Public Health Ministry Reports Polio Incidence
90WE0243A Vientiane PASASON in Lao 25 May 90
p 1

[Text] The project to eliminate polio is part of the vaccination project. The purpose of the project is to end the sickness and death of children caused by polio and achieve the goal of the World Health Organization of eliminating polio in the region by 1995 and throughout the world by the year 2000.

According to the data of the statistics section of the Ministry of Public Health concerning polio cases from 1982 to 1988, in 1982 there were 46 cases, in 1983 there were 26 cases, in 1984 there were 13 cases, in 1985 there were 523 cases, in 1986 there were 182 cases, in 1987 there were 480 cases, in 1988 there were 154 cases, and in the first six months of 1989 there were 17 cases.

According to the data of the Vientiane Rehabilitation Center, from 1983 to 1988 there were 142 cases and of these 60 percent involved children under five years, while 20 percent were children aged five to nine. Of these 61 percent were male. In 1985 there was a survey in Vientiane Municipality and Champasak Province of all cases of polio new and old. It involved 26,867 children between five and 14. The incidence of new and old cases was 2.78 per 1,000 children. The figure was estimated to be 2.53 cases per 1,000 children for the entire country.

The survey indicated that for every 394 children one was stricken with polio before age six, and each year there were more than 300 people with polio throughout Laos. Of these 26 percent were children under one year and 76 percent were children under three years.

In order to avoid further cases of polio, the project to eliminate polio arranged for there to be a week during which vaccinations for the disease were to be given. They also set up fixed units and mobile units and set vaccination days. New-born children aged six weeks especially had to have their first vaccinations. They were to get their second vaccinations at 10 weeks and their third at 14 weeks. The vaccinations were to be at least one month apart.

At present the project to eliminate polio is progressing steadily. The rate at which protection is given, although not high, is increasing each year. There are now 95 districts out of 115 throughout the country which have vaccination projects.

THAILAND

Malaria Along Cambodian Border

90WE0230B Bangkok MATICHON in Thai 30 May 90
pp 1, 2

[Excerpt] [passage omitted] A report from Chanthaburi Province stated that more than 1,000 of the 10,000 Thais who have gone into Cambodia to mine gemstones have contracted malaria. Besides this, many others have been killed, and their bodies have been left in the jungles in Cambodia. Some people have gone to malaria clinics or to hospitals in Chanthaburi and Trat provinces to be treated for malaria.

The report stated that the Thais who have gone there in search of finding a fortune include people from both Chanthaburi and Trat provinces and from provinces in the northeast. All of these people cross into Cambodia from Bo Rai District in Trat Province in an area known as "Khao Phet" [Gemstone Hill]. The trip takes about 18 hours. These people have to pay Cambodian soldiers to guard and guide them. Those who have contracted malaria have to pay people up to 30,000 baht to carry them back to Thailand.

A report from the Trat provincial malaria unit said that with the support of the Zone 5 Malaria Center in Nonthaburi Province, the Trat provincial malaria unit has sent officials to set up 23 malaria units in Bo Rai District in order to treat people and provide those going to Cambodia with knowledge about how to protect themselves from this disease. Large numbers of people continue to enter Cambodia to mine gemstones. The number will begin to decline around June because of the heavy rains.

First Lieutenant Khunthong Suktiphan, the public health officer in Trat Province, said that there is now a serious malaria epidemic in Trat Province. It is estimated that 30 percent of those who mine gemstones in Cambodia will contract malaria.

In Kanchanaburi Province, Mr. Mongkhon Thaphingkao, the head of Malaria Unit 53, told a reporter that last year, 10,000 people in Kanchanaburi Province contracted malaria. During the period October 1989 to April 1990, only 6,000 people contracted malaria, which is considered to be a significant drop in the number of cases.

Mr. Mongkhon said that most of the people who have contracted malaria work in the jungle and don't know how to protect themselves. The greatest number of malaria cases have been found in Thong Phaphum District.

Dr. Thira Rammasut, the director-general of the Communicable Diseases Control Department, said that in Bo Rai District in Trat Province, there have been a large number of cases of malaria. About one-third of the

EAST ASIA

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malaria cases in the country are in this province. Moreover, the strain of malaria found in this area is a very virulent strain.

Dr. Thira said that the department has ordered public health officials in Trat Province to coordinate things with the military in finding malaria patients both before they go to Cambodia and after they return. He said that the department is cooperating with the Marine Corps, Royal Thai Navy, in order to facilitate the establishment of malaria clinics along the borders in order to halt this disease.

"A meeting was held in order to coordinate the prevention of communicable diseases along our borders. A resolution was passed to have the World Health Organization and UNICEF ask Burma and Cambodia to help eradicate mosquitoes that carry this disease. But there

are still problems, because the governments of those countries cannot control things along these borders," said Dr Thira.

TUVALU

'Mild Form' of Cholera Outbreak

*BK2008071990 Melbourne Overseas Service in English
0500 GMT 20 Aug 90*

[Text] About 40 cases of Cholera have been reported in Tuvalu, most on the main island of Funafuti. The prime minister, Mr. Bikenibeu Paeniu said tests in New Zealand have confirmed that it is only a mild form of the disease. He said the World Health Organization is expected to send medical staff and supplies this week and Australia and New Zealand may also be asked to help.

BULGARIA

Dysentery Epidemic On Black Sea Coast Under Control

AU1208181990 Sofia DUMA in Bulgarian 9 Aug 90 p 1

[Tsanko Raychev report from Burgas: "Dysentery Epidemic Is Under Control"]

[Text] The leadership of the Epidemiological Medical Institute in Burgas assessed the data on the development and spreading of infectious gastric diseases in the area. The announcement says that a total of 593 cases were confirmed in July 1990, 508 of which were described as enterocolitis and 85 cases as dysentery. No cases of typhoid fever, typhus, or cholera have been diagnosed.

The epidemic was most widely spread in Aytos Municipality, where 212 cases of enterocolitis and 57 cases of dysentery were established, followed by the city of Burgas, where 77 cases of enterocolitis and 5 cases of dysentery were diagnosed.

The epidemiological tests revealed negligence in observing the required health precautions in the use of local water sources as the main cause of the epidemic. As a result of the Epidemiological Medical Institute's energetic efforts and the measures adopted under its instructions, the epidemic is under control.

Government Sets Up Epidemic Commission

AU1008174690 Sofia DUMA in Bulgarian 7 Aug 90 p 2

[Text] Sofia—The Council of Ministers has issued the following announcement:

In connection with the development of epidemics of infectious diseases and food poisoning in certain neighboring states and with the associated risks which have developed, the Council of Ministers has set up a temporary commission to organize protection for the population.

The commission has been instructed to hold regular consultations with WHO and the relevant ministries and organs of the countries in which cases of cholera and other infectious diseases have occurred; to inform citizens and foreign visitors through the mass media of the measures which must be undertaken; to assist in immediately bringing all drinking water sources, food establishments, discharge facilities, garbage dumps, and so on into line with public health requirements, paying particular attention to buildings and installations in the border regions, town areas with an increased risk of infection, school camps, and so forth. Public health control is to be strengthened at border crossing points, as well as checks on food and drink products.

Regional operational bureaus are to be set up at the headquarters of the hygiene and epidemiological inspectorates; these are to include as members representatives of public organizations, the organs of the Ministry of

Internal Affairs, and of the veterinary and medical centers, as well as other specialists and experts.

The Council of Ministers orders ministries, other departments, and the executive committees of the municipal people's councils, as a matter of priority, to provide as quickly as possible the necessary funds for disinfection, diagnosis, medical drugs, infusion and other solutions, equipment for disinfecting drinking water, additional vehicles, and direct telephone, telex, and telegraph links.

The leader of the temporary commission is to keep the Council of Ministers regularly informed about the epidemiological situation in the country and about the measures being undertaken. He will ensure that the population is informed through the mass media in a timely way about the epidemiological situation in the country.

Risk of Cholera in Ruse

AU1508152990 Sofia NARODNA ARMIYA
in Bulgarian 13 Aug 90 p 1

[Text] Ruse—So far not a single case of cholera has been registered in the largest Bulgarian town on the Danube, but the risk of such cases does exist. It stems mainly from the ceaseless flow of Romanian "tourists," who are increasingly selling goods and various food products of doubtful purity in the Romanian flea market, as well as from our own dark-skinned itinerant peddlers [Gypsies], who cross to and from Romania every day.

The first dangerous symptoms of the spread of epidemics are already in evidence. According to the records of the Hygiene and Epidemiological Institute, the incidence of stomach and intestinal diseases has increased almost three-fold, compared with previous years. There is a real risk of a cholera epidemic flaring up, especially in the quarters of the city with a predominant Gypsy population.

It is urgently necessary for the border and customs authorities at the Danube Bridge Border Checkpoint and the central railroad station to act uncompromisingly to prevent the import of any food products whatsoever by private persons.

No Cholera Diagnosed; Intestinal Infections on Rise

AU1608190290 Sofia BTA in English 1358 GMT
16 Aug 90

[Text] No case of an intestinal disorder that may be cholera has been diagnosed in Bulgaria, the press was told at a briefing at the Ministry of Public Health and Social Welfare today. However, the upward tendency in the incidence of infectious intestinal diseases persists in August. In the first 13 days of the month, 2,066 cases of intestinal infections have been recorded in this country.

No epidemic has broken out so far due to contaminated water, but the shortage of water in a number of populated places makes it impossible to observe basic rules of day-to-day hygiene.

The Government Commission on the Prevention of the Epidemic Spread of Infectious Diseases and Food Poisoning is enforcing fast prophylactic and anti-epidemic measures. At its meeting today it considered a number of questions which it submitted for solution to the Council of Ministers.

A considerable threat to public health is posed by the rife black market in foods and beverages.

According to one view, the situation in the country and the rising incidence of cholera cases in Romania and in some other countries necessitate a temporary restriction on the tourist traffic to and from Romania.

'Cholera-Like' Bacteria Found in Danube

*AU1708160390 Sofia BTA in English 1354 GMT
17 Aug 90*

[Text] The latest samples taken from the Danube by the Pleven Inspectorate of Hygiene and Epidemiology show that the water of the river is contaminated and harmful for the health. It contains cholera-like vibrios and other pathogenic microorganisms. Bathing in the Danube River has been forbidden by several municipalities.

It is also recommended not to use the river for water sports.

'Strict Measures' Against Cholera at Romanian Border

*AU2408195090 Sofia DUMA in Bulgarian 22 Aug 90
p 1*

[Nikola Nanev report: "Strict Measures Against Cholera at Romanian Border"]

[Text] Silistra—Stricter control measures have been introduced at the border checkpoints in Tutrakan and Silistra in order to prevent the entry of in Bulgaria of Romanian citizens with cholera. Tourists and their vehicles must be disinfected. Vessels at the two ports are controlled.

The Silistra and Tutrakan Municipal People's Councils have banned private visits of our citizens to Romania, and visits of Romanian citizens in our country. The Hygiene-Epidemiological Institute and the enterprises related to water supply and canalization are treating the drinking water in the two municipalities with chemicals.

Bulgarians who return from trips abroad and foreigners who arrive here are subjected to a five-day quarantine. Bathing in the Danube River and all sports events in the river have been banned. The ship which connects

Tutrakan with the Romanian city of Oltenita, and which used to make a few roundtrips every day, has been stopped.

ROMANIA

Several Cases of Cholera in Galati, Tulcea Areas

*AU2507110290 Bucharest ROMPRES in English
1025 GMT 25 Jul 90*

[Text] The Ministry of Health announced that several cases of cholera had been found in Romania. In Galati County 2 cases were reported and in Tulcea County 13 cases. All those affected are now out of danger. The Ministry of Health coordinates the anti-epidemical measures. To this end the preventive medicine centres in the two counties have been delivered the necessary medicines and measures were taken to ensure the drinking water. The population in the affected area is requested not to use untreated water or if they are forced to use it they should firstly boil it.

Cholera Cases in Danube Delta

*AU0108182790 Bucharest ROMPRES in English
1731 GMT 1 Aug 90*

[Text] Thirty-seven cases of cholera have been registered until August 1, reads a communique of the preventive medicine department in the Ministry of Health. The majority of the suffering persons are living in the Danube Delta area while other five are living in other counties. Those persons worked in the Danube Delta or visited it as individual tourists.

The communique also specifies that the Ministry of Health has taken measures to discover immediately the sick persons, to hospitalize them and the suspected ones, to treat them and their families.

The ministry has launched many appeals through mass media requesting the population in that area to boil water before using it.

Cholera Cases Rise to 41

*AU0308175990 Bucharest ROMPRES in English
1655 GMT 3 Aug 90*

[Text] A press release from the Ministry of Health announces forty-one cholera cases have been reported as of Friday, 3 August 1990. The cases were distributed as follows: Tulcea County 27 cases, Galati County 8 cases, Prahova County 3 cases, and Dimbovita County 3 cases.

All the cases registered in Prahova and Dimbovita Counties as well as at Certezi, Galati County, are people who work or went to the Danube Delta on their own, the communique specifies.

No case was reported in the seaside resorts or among the people benefiting from the services of tourist enterprises. Not all the cases of summer diarrhea or food intolerance are "cholera," the communique reads in conclusion.

Health Ministry Release on Cholera Cases

*AU1908155290 Bucharest ROMPRES in English
1454 GMT 19 Aug 90*

[Text] In connection with the news items sent by the Bulgarian news agency BTA on August 18, 1990 referring to restrictions on private trips by persons from Romania and by Bulgarian citizens to Romania because of the incidence of cholera, as well as with the holding of talks between the Romanian and Bulgarian Foreign Ministries, a release from the Romanian Ministry of Health shows that the Romanian authorities have not been contacted so far by the Bulgarian authorities.

The same release shows that as many as 70 cases of cholera were reported between July 19 and August 19, 1990. All the ill persons were tracked in due time, taken to hospital and given due medical care. No death was recorded and 25 persons are still in hospital for treatment. No instance of getting ill was recorded with the foreign tourists.

None of the ill persons reside in localities by the Danube on the frontier sections with Yugoslavia and Bulgaria. All patients registered so far live and work in Tulcea County or traveled on their own in the Danube Delta drinking water directly from the river.

No incidence of cholera was reported in the coast resorts or with the tourists using services offered by the Romanian travel agencies.

Considering the evolutions of the previous cholera epidemics in Romania, the release shows, this year's one is moderate in evolution, given that the population has been promptly informed and understood that the observance of hygiene rules can avert the disease.

Foreign Ministry Deplores Bulgarian Interdictions

*AU2208200790 Bucharest ROMPRES in English
1835 GMT 22 Aug 90*

[Text] Romania's Foreign Ministry deplores the restrictive steps taken by the Bulgarian Government on August 17 a temporary ban on private travels of Bulgarian

citizens to Romania, a temporary ban on imports of foodstuffs, drinks and other products by private persons through the Romanian-Bulgarian border, a temporary halt to travels through a number of check points.

It was only four days after the adoption of that decision, the communique shows, that the Bulgarian Foreign Ministry announced the Romanian Embassy in Sofia of the restrictive steps taken and in the meantime many Romanian citizens had to cope with unpleasant situations in Bulgaria or when entering the territory of that country.

The Foreign Ministry's communique also shows that like procedure is strange to say the least, as the Bulgarian authorities made decision concerning bilateral Romanian-Bulgarian relations without previously consulting the relevant Romanian authorities, and the Romanian side was officially informed of the decision made by the Bulgarian Government only after it had been made known to public opinion through the mass media in Bulgaria. Furthermore, a true unfriendly campaign in connection with a so-called cholera epidemic in Romania was unleashed in that country, which runs counter to the actual situations a matter of fact, on August 19 the Health Ministry of Romania informed public opinion of the real situation in the country in connection with several isolated cases in the Danube Delta, with the sick persons now completely out of danger. It was also shown that there were no cholera cases in Danubian localities along the border with Bulgaria, in littoral resorts or among tourists benefiting from services offered by travel agencies. All the cholera cases registered so far are people living and working in the County of Tulcea or people who went to the delta as private tourists and drank water directly from the Danube. Therefore, from this point of view, there is no danger at the Romanian-Bulgarian border and, therefore, there is no justification for the restrictive steps taken by Bulgaria, which run counter to the free movement of individuals.

Romanian citizens wishing to travel to Bulgaria as tourists in the period to come are requested to consider the aforesaid aspects and the situation the Bulgarian side created at the border between the two countries.

BRAZIL**Plan To Combat Leading Diseases Described**

90WE0248A Sao Paulo O ESTADO DE SAO PAULO in Portuguese 7 Jul90 p 10

[Text] Brasilia—The federal government will invest nearly 178 billion cruzados over the next five years in a program to combat 41 diseases considered priorities by the Health Ministry. A proposal newly formulated by the National Health Foundation, called the Basic Action Plan, categorizes 14 diseases, including malaria, dengue, and AIDS, as top priorities. The project also includes the disbursement of 94.8 billion cruzados for sanitation programs required to control various endemics.

For two and a half months, technicians from the National Health Foundation (an agency combining SUCAM [Superintendency for Public Health Campaigns] and the SESP [Special Service for Public Health Foundation]), assisted by consultants from the Pan-American Health Organization (PAHO), conducted various studies until they determined priorities I, II, and III. The latter were based on criteria including the magnitude of the problem, deadlines, available technology for combating them, and capacity for controlling them. One of the technicians involved in the project explains: "When the Basic Action Plan is approved, the health minister, Alceni Guerra, will decide who is to be responsible for handling each situation."

Every state governor will receive the plan, so as to redefine the priorities based on the particular features of his region. In Guerra's opinion, "What is most important is to combat further outbreaks of diseases and to prevent new problems, such as the appearance of hemorrhagic dengue in the country."

The technicians are most concerned about malaria and dengue, included in the project's No. I priorities. According to data compiled by the government, malaria (previously limited to rural areas of the Amazon Region)

has a high probability of expanding to urban areas of the country. In the case of dengue, there are increasing infestations in Sao Paulo, Minas Gerais, and Rio de Janeiro.

One of the goals of the National Health Foundation's Basic Action Plan is to establish in Brazil an epidemiological monitoring system that will reflect the real, updated status of the diseases, eliminating for once and for all the sub-notification or sub-recording indexes based on estimates. According to the technicians in charge of the project, the country needs to progress toward a "well-known and constantly updated epidemiological situation," so as to allow for the treatment of 100 percent of the sick people. The project includes elimination of the agents causing diseases, with the participation of both state and municipal governments.

Leprosy Strikes 25,000 Each Year

Leprosy is the most widespread endemic disease in Brazil. Each year nearly 25,000 new cases are reported, added to the 260,000 already recorded by the Pan-American Health Organization. This disclosure was made by the sanitarian-physician, Jair Ferreira, from the Rio Grande do Sul State Health Secretariat and PAHO consultant for leprosy. A total of 1.8 out of 1,000 persons contracts the disease in Brazil.

Ferreira explains: "The population imagines leprosy to be a disease typical of rural regions, but the situation has changed since the 1970's, with the migration of poor populations to the large urban centers." He claims that the programs to combat and control the disease accruing the greatest success are those in Venezuela, Cuba, French Guiana, and the Dominican Republic.

For Brazil, the specialists propose that the government adopt the Cuban system, achieved in five years. Ferreira claimed: "In this treatment, three types of imported drugs are used, with the application of the BCG vaccine against tuberculosis, which has proven effective although it has not yet been totally accepted among the scientific community."

Sick Country

The government's plan to attack the leading diseases afflicting Brazilians. Its purpose is to attain the goals set for the period up until 1994			
Disease	Current Status	Goal	Estimated Cost (in cruzados)
Malaria	600,000 cases/year in the Amazon Region and 3,000 deaths/year	Reduction to under 100,000 cases and 500 deaths/year	55.3 billion
Chagas	5 million infected and 7,000 deaths/year	Stoppage of intra-domicile and transfusional transmissions	15.5 billion
Dengue	At least 8,000 cases in 1990	Elimination of Aedes aegypti or reduction in infestation, plus early detection and control of epidemics	21.3 billion
Poliomyelitis	4 cases this year and 35 reports confirmed in 1989	Eradication by 1990	12.9 billion
Measles	60,000 cases and 1,300 deaths/year	Reduction to under 7,500 cases/year with maximum of 200 deaths	4.2 billion

Sick Country (Continued)

	The government's plan to attack the leading diseases afflicting Brazilians. Its purpose is to attain the goals set for the period up until 1994		
Disease	Current Status	Goal	Estimated Cost (in cruzados)
Neonatal tetanus	400 cases/year, 80 percent fatal	Elimination of occurrence	2.0 billion
Accidental tetanus	1,500 cases/year	Reduction to under 100 cases/year	4.1 billion
Human rabies	53 cases in 1989, 100 percent fatal disease	Elimination of urban cycle	150 million
Tuberculosis	80,000 cases and 5,000 deaths/year	Elimination of 90 percent of cases and of the death rate	4.1 billion
Leprosy	25,000 new cases in 1988	Treatment and cure of 80 percent of cases/prevention and rehabilitation of disabilities	2.5 billion
AIDS	Over 11,000 cases	Elimination of transmission by transfusions and improved sizing of the problem	2.5 billion
Meningococcal disease	Rising trend/over 29,000 cases in 1989	Reduction of the 20 percent death rate to under 15 percent	4.1 billion
Diphtheria	1,000 cases and 200 deaths/year	Reduction of morbidity to under 50 cases and of mortality to under 10 cases/year	4.1 billion
Infectious diarrhea	20 million cases and 40,000 deaths/year	Reduction of morbidity to under 10 million and of mortality to 5,000/year	9.0 billion
Total			141.7 billion
Source: Ministry of Health			

Leptospirosis Outbreaks Following Floods

In Recife

PY0708193190 Rio de Janeiro Rede Globo Television
in Portuguese 1600 GMT 7 Aug 90

[Summary] Forty victims of last week's floods have been admitted to hospitals in the metropolitan area of Recife suffering from leptospirosis.

In Pernambuco

PY1508135490 Brasilia Radio Nacional da Amazonia
Network in Portuguese 1000 GMT 15 Aug 90

[Summary] Marcelo Silveira, chief of the Pernambuco Regional Health Directorate, has said that there is a leptospirosis epidemic in the state; 100 cases have been detected in the wake of floods caused by the Capibaribe River. The cases were detected in greater Recife.

Malaria Cases Increasing in Amazon Region

PY2208140090 Brasilia Radio Nacional da Amazonia
Network in Portuguese 1000 GMT 22 Aug 90

[Summary] Malaria cases in the Amazon region are on the increase. From January to May 1990, the National Health Foundation registered 10,234 malaria cases,

which is more than the 10,045 registered from January to July 1989. The situation is critical because the malaria season in the region is just beginning and the highest number of cases is always registered during the months of August, September, and October, when 50 percent of all annual malaria cases are registered.

DONINICAN REPUBLIC

Typhoid Fever Outbreak in Santo Domingo

FL2707180090 Santo Domingo Radio-Television
Dominicana Radio Network in Spanish 1600 GMT
27 Jul 90

[Text] Physicians in charge of controlling an epidemic outbreak of typhoid fever in the Santo Domingo neighborhood of La Cienega have detected 17 new cases in the last two days. Authorities earlier detected an epidemic outbreak of salmonellosis in the same area.

The physicians detected the new cases of typhoid fever in people who had not been treated previously by doctors, according to doctor Luis Mendes Fumarol of the central health unit operating in the area. Fumarol said that the new patients were treated in two of the three mobile health units that were installed in the area.

JAMAICA**Typhoid Outbreak, Over 40 Hospitalized****Two Deaths Reported**

FL1008143590 Bridgetown CANA in English
1341 GMT 10 Aug 90

[Text] Kingston—[Words indistinct] two people have died and over 40 others hospitalized following an outbreak of typhoid in the western Jamaican parish of Westmoreland, Health Ministry officials said on Friday. Principal medical officer Dr. Carmen Bowen in a radio broadcast said that there was no need for panic, but urged them to take all the necessary precautions.

A team of epidemiologists was dispatched to the parish to carry out various tests, after the ministry said that six persons tested on Thursday had shown signs of having contracted the disease. Typhoid fever is contracted mainly through contaminated water with the symptoms being fever, pain, vomiting, diarrhea, stupor, and headache or a combination of these.

Death Toll Climbs

FL1308120590 Bridgetown CANA in English
1913 GMT 11 Aug 90

[Text] Kingston—The death toll from an outbreak of typhoid fever in the western Jamaican parish of Westmoreland climbed to three on Friday as health authorities continued investigating the cause. Fifty five other persons have been hospitalized with the disease, health officials said.

Authorities ordered the closure of the Savanna-La-Mar public market because of unsanitary conditions there. Residents said drains were blocked, and the stench of rotten garbage filled the air. The GLEANER reported on Saturday that workers at the collectorate of taxes in the area had been complaining of illness and their workdays had been reduced to one or two hours daily. The parliamentary representative for the area called on the Westmoreland Parish Council to ensure that the streets were kept clean.

Outbreak Spreads

FL1408163190 Bridgetown CANA in English
1549 GMT 14 Aug 90

[Text] Kingston—A typhoid outbreak which so far has claimed four lives in the western parish of Westmoreland, has spread to a neighboring parish. The GLEANER reported on Tuesday that three persons, suspected of having the disease, were being treated at the Black River Public Hospital in the parish of St. Elizabeth.

Nearly 100 persons have been hospitalised in the Savanna-la-Mar Hospital in Westmoreland with symptoms of the water-borne disease.

Hoteliers in the resort area of Negril say news of the outbreak has not yet affected business.

Chief medical officer Dr. Barry Wint said intensive investigations and tests carried out by Ministry of Health suggested the outbreak may have been caused by the use of or exposure to contaminated water in canals, the discharge of raw sewage into rivers used by citizens for swimming and domestic purposes, and the use of water from these sources on vegetables and fruits sold in the Savanna-la-Mar market.

NICARAGUA**600 Children Die of Diarrhea, Measles in Managua Area**

PA2708032290 Paris AFP in Spanish 2254 GMT
24 Aug 90

[Text] Managua—The Health Ministry reported on 24 Aug that 600 children have died in the Managua area during the last seven months due to a measles and diarrhea epidemic.

Authorities have reported that a shortage of medicine and a lack of a massive preventive campaign have increased the number of deaths.

They have labeled the situation in other areas of the country as "catastrophic." In those areas, about five children die every day, mostly victims of diarrhea.

Patricia Mendez, head of the Department of Epidemiology, has stressed that, "the way things are going, children's health conditions will worsen substantially in the next few weeks."

In view of the shortage of medicine, the Health Ministry is conducting training programs for medical and paramedical personnel.

Julio Arostegui of the Department of Epidemiology explained that the health conditions prevailing in most low-income homes are the determining factor in the numerous cases of diarrhea and measles.

He also said that the scant propaganda carried out to warn the people of the danger of the epidemics worsens the problem.

TRINIDAD & TOBAGO**Health Ministry Reports Rise in Dengue Fever**

FL2308221590 Bridgetown CANA in English
2154 GMT 23 Aug 90

[Text] Port of Spain—Dengue fever is on the increase in Trinidad and the Health Ministry says that for the first quarter of the year, 1,788 diagnosed cases have been reported. The ministry said the dengue viral activity was on the increase in the capital, Port of Spain, and surrounding areas.

The dengue virus type 1 has been isolated, said the report, adding that during the last dengue outbreak, both types one and two had been isolated. The report said the concurrent isolation of both types of dengue virus here,

"was a particularly disturbing event, as it set the stage epidemiologically for the likely occurrence of dengue haemorrhagic fever/dengue shock syndrome in the local community."

ALGERIA

Campaign Launched Against Foot and Mouth Disease

90WE0281B Algiers EL MOUDJAHID in French
11 Jun 90 p 18

[Article by K. Messaad: "Relentless Fight in Oum-El-Bouaghi"]

[Text] The campaign to prevent foot and mouth disease is being actively conducted throughout the Oum-El-Bouaghi wilaya, where 20 veterinarians and over 20 technicians have been dispatched throughout the territory.

Eighteen pockets of the disease were confirmed by the veterinary departments, which are involved in a veritable race against the clock to totally eradicate it. The vaccination drive has already resulted in the vaccination of over 186,000 head: 160,780 sheep, 4,668 cattle, and 20,683 goats. Over 6,000 head have been canvassed. Contacted about the origin of this outbreak of foot and mouth disease, the wilaya veterinary inspector stressed that "after the Tunisian dinar was devalued, people no longer able to bring back clothing or electrical appliances began to buy sheep previously sold in the trabendo [black market]. And since Tunisia is already a pocket, everything that comes in contaminates our herd, especially in the border regions (Tebessa). To save his herd, a breeder thought it was a good idea to transfer it to Dalaa: It was a carrier of the disease, which resulted in contamination through buying and selling of the herd."

Since foot and mouth disease broke out in December of 1989 in Tunisia, all the necessary measures were taken immediately in Oum-El-Bouaghi, notably vaccination throughout the communes bordering Tebessa and Souk-Ahras, and the education of owners. The vaccination drive in December-January reached over 1,200 head.

Finally, it should be emphasized that, ever since the disease broke out, a relentless fight has been under way throughout the Oum-El-Bouaghi, where animal markets have been closed until further notice (the Oum-El-Bouaghi wilaya has a herd of nearly 800,000 head).

Typhoid Fever Breaks Out in Rahouia

90WE0281A Algiers EL MOUDJAHID in French
11 Jun 90 p 18

[Article by Amar Belkhodja: "Cases of Typhoid Fever in Rahouia"]

[Text] The summer season has gotten off to a bad start in Tiaret. Viral hepatitis still lingers and refuses to vacate the poorer section of the city. After the chlorinators were repaired and chlorine gas injected into the Bakhada dam treatment plant, everyone breathed a sigh of relief and thought the rate of viral hepatitis would decline. An

epidemic of it broke out at the end of April in a poor block of houses where sanitation and life-quality problems are still unresolved.

Of the 120 cases hospitalized at the beginning of the flare up, only 17 were still on the infectious diseases ward of Youcef Damardji Hospital in mid-May. But 10 days later, viral hepatitis has resurfaced. In the meantime, more precisely on 27 May, EPET (Tiaret Water Distribution Company) notified the health service that it had run out of chlorine gas, a product whose supply has been suspended by CELPAP [expansion unknown], the Baba Ali factory (Algiers).

At the same time that it announced the shortage of chlorine gas, EPET and the Tiaret APC [expansion unknown] informed the population. A communiqué was broadcast by loudspeaker, suggesting that citizens boil or add bleach to water from the Bakhada dam meant for consumption. It was an admission that, for want of chlorine, the water was insufficiently treated. This, moreover, was confirmed by EPET, which admits that the current treatment with sodium hipochlorite (bleach) is not an intensive one. It should be noted in passing that, during the first flare up, the people were not informed by anyone of the need to complete treatment of the water because of disturbances in EPET's supplies from the Baba Ali factory.

It should also be pointed out that EPET officials still maintain that no one can prove viral hepatitis is really caused by poor treatment of water from the dam.

Communication is not very good between EPET and its so-called accusers: preventive agents responsible for monitoring and control of water quality and agents of the quality-control and antifraud division. It was, moreover, the latter who forwarded to the Tiaret prosecutor's office the report in which EPET is cited for "distribution of water unfit for consumption." The quality-control division analyzed in its own laboratory water samples that showed the water had indeed been polluted (presence of fecal chloriforms and streptococcus).

EPET, which thinks everyone has ganged up on it, is demanding "proofs of its guilt." A meeting is scheduled in wilaya headquarters for next 13 June. Everyone will be there. It is expected that all parties will deal with the matter responsibly, as they all have a common mission: to protect the citizen from any risks he might run in drinking water whose treatment is deficient. All the parties will stick to the facts.

At the end of May, 35 people with viral hepatitis were hospitalized. The infectious diseases ward was again overwhelmed since it was admitting Rahouia patients with typhoid fever during the same period. Transfers to the psychiatric hospital located in the same district had to be made.

Of the 20 people suspected of having contracted typhoid fever, four cases were confirmed on 30 May. Led by Dr.

Bentabet, a preventive division team traveled to Rahouia, located 35 kilometers north of Tiaret.

Man is always the cause of his own misfortune.

In Rahouia, it was unfortunately found that the typhoid cases were due to a leakage of unwholesome water through the drinking-water supply system in two housing blocks, one made up of 169 flats and the other of 120 individual dwellings built at ground level in 1987.

The causes are classic. Built after 1987, the two housing blocks in question were never hooked up to the main sewer system. While waiting for this to happen, each family improvised its own septic tank. The result: Over time leaks from the tanks polluted the drinking water.

The preventive team located and removed the section of the deadly pipes. The use of septic tanks was also prohibited.

A link up of the two housing blocks with the sewer system is imminent.

Over 70 Cases of Brucellosis

90WE0289A Algiers *EL MOUDJAHID* in French
19 Jun 90 p 20

[Article by M. Gadiri: "71 Cases of Brucellosis in Sebdou"]

[Text] An isolation ward has been opened in Sebdou Hospital for the hospitalization, diagnosis, and treatment of patients with brucellosis who are coming, in the greatest numbers, from Bouihi commune located in the Algerian-Moroccan forest strip.

Out of a total of 150 [blood] samples, 71 cases have been reported. Since the outbreak of the disease in the region last May, a detection and epidemiological study of the plague have been pursued by a Sebdou animal-health and disease-prevention team.

Several working and coordination meetings were held with the veterinarian, the wilaya health department, the health district, and concerned authorities, in which measures deemed useful were taken to eradicate the scourge. Moreover, an equally large pocket of the disease was discovered recently in the city of Khelil, an area a few kilometers from the district seat of Bouihi and Sidi Djillali commune. An emergency team has been established to eradicate the disease and protect the herd from any losses. 71 people were hospitalized in Tlemcen and Sebdou following analyses performed by the wilaya laboratory. It was after these hospitalizations that the veterinary inspection division, the health-district preventive office, and the health department each undertook epidemiological studies in Khelil and surrounding areas. Samples were taken. Out of 587 sheep and goats, 363 head were found to be brucella germ carriers.

The weekly livestock market has been closed to prevent the scourge from spreading. As part of the prophylactic

drive against animal diseases, over 1,000 head of cattle were vaccinated in May in the daira against foot and mouth disease. Attention should be called to the fact that the departments concerned are ready to provide aid, assistance, and advice to the region's farmers and breeders.

BANGLADESH

Standards of Public Health Hospitals Questioned

90WD0500 Dhaka *THE BANGLADESH OBSERVER*
in English f Jun 90 p 5

[Editorial: "Hospitals and Standard of Service"]

[Text] This paper carried on 30 May a report on Pangu Hospital in Dhaka. Even allowing for the professional flair for occasional overstatement, the factual account contained in the report of the standard of medical service inside the hospital and its general conditions ranging from ward doctor's attendance to food to nursing to toilet facilities is unusually uncomplimentary, to put it very mildly. A general question raised by such a report is: are things any better in other hospitals or health complexes, particularly those run by the government with the tax-payer's money.

The answer, unfortunately, is one showing a difference only in degree rather than kind: Nearly all these places of nursing and treating patients, known as hospitals, share much the same standard of internal sanitation, the unwholesome atmosphere and patients with complaints on many counts. In matters of medical attention and service a difference is noticed between cabin patients and those in general wards. It looks as if the ubiquitous state of advantage for one class and disadvantage for the other obtains as well in the country's public health service. The poor in the poor countries are almost as a matter of tradition at a great disadvantage.

Almost parallel to the government health institutions are private sources of health service, specially the clinics whose number is increasing by the month. And that quite understandably in response to an enormously rising demand for the same but also more to the advantage of the advantaged. The poor patients have little access to them for the simple reason that they cannot afford the cost of service provided by them. Incidentally, the soaring demand for health service implies (1) an equally soaring rate of incidence of disease, (2) the consequent need for medical treatment and (3) the professional opportunity for doctors and physicians to claim a much higher price for their services. This is the health vicious circle in which upwards of 95 percent of the population is extricably caught. And it is they who by their taxes have helped build up the country's total public health service structure. The state spends several lakhs to turn out a doctor, and with such results for the tax-payer(!)

The Health Minister said on Wednesday the government would soon announce a national health policy which will set up hospitals at district and upazila levels. This should be good news provided the contemplated set of hospitals and the service available from them, both in quantity and quality, are a little better than the existing ones.

At the moment the country has about 521 hospitals with 26,913 beds and 8,005 doctors to cater for 110.5 million people. The Health Minister also said that allocation of funds for the country's health service would also be increased.

The increased allocations, either for health (or, say, education) welcome as it is, are so relatively to allocations under past governments but are nowhere near the very minimal need of a populous country like Bangladesh. Both education and health seem to have been consistently neglected by all the governments over the past whole half a century. No wonder, even an independent Bangladesh notwithstanding, we have one of the lowest rates of literacy in the world as well as about the lowest standards of health accounting for one of the highest numbers of patients with the lowest number of doctors and hospitals.

This is where scope exists for the government to make special efforts to improve things. The improvement is achievable through concrete steps taken by the Public Health Department to remedy the ills pointed out by the press as well as the general public. What is important, between government and people, is that improvements promised by the former should not only start but appear to start in right earnest to earn the trust and gratitude of the tax payer.

Health Minister Notes Steps Against Kala-azar

*90WD0502 Dhaka THE BANGLADESH OBSERVER
in English 19 Jun 90 p 10*

[Text] The minister for health and family welfare, Dr Azizur Rahman, on Monday told the Jatiya Sangsad that the government had taken adequate measures to check the outbreak of kala-azar in the country, particularly in the northern districts.

Taking part in a short discussion moved by Mr Shahidul Islam Khan (JP-Sirajganj) on the outbreak of kala-azar due to lack of adequate treatment facilities in the 16 districts of the northern region, the minister said the government was aware of the situation. The situation is now under control, he said.

The health minister said that kala-azar was first detected in the country during the reign of Mughals and in the 1950s it broke out in an epidemic form. During the 1960's and 70's, this disease was completely checked in the country but after independence it was again being detected in the northern districts.

He said since kala-azar was a communicable disease, the people in general and the Jatiya Sangsad members in particular should cooperate with the government in eradicating it.

He pointed out that this disease was being infiltrated in Bangladesh from across the northwestern border. The World Health Organisation (WHO), the minister said, was initiating research work with the governments of India and Nepal to combat the disease.

Earlier, initiating the discussion, Mr Shahidul Islam Khan said about 10,000 people of 16 districts in the northern region had been affected by this despoiling disease.

Spread of Cattle Disease Epidemic

Effects Told

*90WD0499 Dhaka THE BANGLADESH OBSERVER
in English 3 Jun 90*

[Excerpts] Bagerhat—Cattle disease broke out in an epidemic form in all nine upazilas of Bagerhat district recently. The disease attacked the mouths and legs of the cattle which cannot eat and move making them cripple.

Every day reports of large number of attacks of cattle are pouring from the mofussil areas.

When contacted, the District Livestock office told me that only 45 cattle mainly calves died of the disease in the district. He added that over 12,000 head of cattle has been attacked with the disease in the district.

According to non-official reports received here, the disease has so far claimed more than 200 head of cattle in the district and more than 30,000 are suffering from the disease.

The large-scale attack of cattle at the time of aman cultivation has created a panic among the farmers of the district.

Meanwhile, the District Livestock Department has adopted all-out measures, both curative and preventive measures, to combat the disease.

Bogra

At least 5000 head of cattle perished over the last 5 months of various diseases including khura while another 35,000 have been affected, of which, 1,000 have been rendered unfit for draft.

According to official sources, cattle diseases like khura, Tarka, Golfula, Badli are common.

It is alleged that lack of veterinary medicines and surgeons have compounded the misery of the farmers.

'Panic Among Farmers'

90WD0499 Dhaka *THE BANGLADESH OBSERVER*
in English 6 Jun 90 p 9

[Text] Chapainawabganj—Cattle diseases that broke out in the district in an epidemic form, so far claimed 50 lives of cattle and attacked several hundred others, reports UNB.

According to sources, the diseases Khura and Enthrax have taken a serious turn causing panic among the farmers. New areas are being engulfed by diseases everyday.

Shortage of medicine in the livestock department has also aggravated the situation. Farmers from far-flung areas go back disappointed with their diseased cattle-heads due to scarcity of medicines.

It is feared that cultivation of land will be hampered greatly in the district, if proper steps are not taken immediately to combat the menace.

Combat Measures Suggested

90WD0499 Dhaka *THE BANGLADESH OBSERVER*
in English 28 Jun 90 p 5

[Editorial: "Sick Cattle"]

[Text] The reports coming from all over the country of outbreaks of foot and mouth disease and of other types of cattle disease is very disturbing for a country with a perennial shortage of cattle. The number of cattle in the country is in the region of 22 million and because of the increase in population the per capita head of cattle is likely to have come down by now from 0.26 to 0.20. Average number of cattle per household is only in the region of 1.6 so we can ill afford to lose cattle to diseases like foot and mouth.

Lack of feed is another perennial problem in sustaining a sufficient number of heads of cattle and the primitive way in which we farm makes it essential that a sufficient number of draught animals are maintained plus the need to supply an expanding market in beef. This means we must have enough properly-fed animals for the purpose. One of the reasons the cattle succumb to diseases so readily is that due to pressures on the animal feedstock for their alternative users as domestic fuel, most of the animals are underfed and there simply is not enough pasture land to provide them with grazing facilities.

Inadequate medicines are also a cause of spreading cattle diseases and should be remedied at once on a top priority basis. But one wonders why we always seem to be wise after the event and not sufficiently alert to probabilities to the extent that we are able to anticipate requirements or properly utilise precautionary measures such as timely vaccination to reduce losses. This to our mind smacks of a lack of responsibility on the part of the veterinarians entrusted with the care of the few domesticated animals

we do possess, and who are supposed to be available in each upazila, which results in huge irreplaceable losses like this.

Enough research is carried out all over the world on the nature and treatment of cattle sickness and is easily available to anyone requesting it. There seems little excuse for not being aware of the precautions and treatments presently available. As we are a poor nation it is in our best interests to vaccinate in time animals which may possibly be exposed to any disease for we cannot afford to replace the dead animals. It may well be we can try to develop healthier cattle hardier than the local breed and we might concern ourselves with the possibilities of importing frozen embryos to improve the strain as Pakistan is reported to be doing which will be less expensive than importing thoroughbred cattle, for stud animals. Even cloning of suitable animals is now possible and the embryos from one particular previously selected mother can impregnate all of the poor quality cows at one and the same time. Artificial insemination of course always remains handy.

With all the benefits of modern technology available to us just for the asking and the advances in animal husbandry generally known to our experts in the line why and where are we lacking in applying this knowledge? Is it merely a sense of complacency with which we are generally cursed that prevents us from taking timely action against situations we are well aware of, or a laziness which makes us always put off till tomorrow what should be done today and then, suddenly, we find it late to remedy?

The poor farmer needs to be taught how to prevent cattle disease and even more important how to recognise it and isolate infected animals from the rest if there happens to be more than one. Accurate dissemination of information on types of diseases and form and what symptoms to look for must be circulated through available media as well as by extension workers and needs constant repetition for our people generally tend to forget if the message is not repeated at regular intervals and this is often overlooked by agricultural extension workers.

INDIA

Tuberculosis Incidence, Morality of Increase in Kerala

90WD0570 Bombay *THE TIMES OF INDIA*
in English 22 Jun 90 p 1

[Text] Kottayam—Statistics available with the health department of Kerala reveal that the number of patients suffering from tuberculosis has been steadily increasing for the last 2 years.

There were 400,000 T.B. patients in the state in 1989-90 which is about 36,000 more than recorded in 1988-89. The figure that year itself was more than the previous year.

This has baffled officials as the state has a rather good record of public health.

Moreover, the morality rate is also reckoned to be very high among the tuberculosis patients of the state. In the 50-bed sanatorium here about 35 deaths occurred last year.

Bihar Reported 'Plagued' by Endemic Kala Azar

90WD0571 *Bombay THE TIMES OF INDIA*
in English 20 Jun 90 p 7

[Text] Patna—The killer disease—kala azar—has been found to be highly endemic in 28 out of 42 districts of Bihar, putting the lives of 45 million at risk in those areas.

Health department sources said the worst-affected districts were Sahebganj, Samastipur, Muzaffarpur, Vaishali, Sitamarhi, Madhubani, Darbhanga, Saharsa and Begusarai.

According to information from various districts, 30,565 persons were affected and 466 deaths reported from kala azar during 1989. The actual number of affected could be more as cases reported pertain to only those coming to government dispensaries and hospitals.

For making Kala azar control programme a success, the state government had requested the Centre to make it a fully Centrally-sponsored programme.

Consultative committees had been set up at state, district, sub-divisional and block-level to ensure community involvement, participation and health consciousness among the people.

The government had also implemented an action plan for the control of the menace. Two rounds of DDT spraying was being done in the worst-affected areas covering 27 million people.

In the nine worst-affected districts of Sahebganj, Samastipur, Muzaffarpur, Vaishali, Sitamarhi, Darbhanga, Madhubani, Begusarai and Saharsa, intensive general spray is being done in addition to environmental measures and personal protection from vector bites. Besides the government had posted district malaria officers in all these districts.

The sources said that case detection and treatment had been ensured through the existing primary health care system and followed by intensive treatment campaigns.

LEBANON

Five Die of Cholera in North Lebanon

NC2608205190 (*Clandestine*) *Radio Free Lebanon*
in Arabic 1845 GMT 26 Aug 90

[Text] REUTER has cited Lebanese medical sources as saying that five people from north Lebanon, including a

three-year old child, have died of cholera. The sources added that the victims had received treatment at the hospitals in Tripoli. The sources noted that 18 people contracted the same disease.

According to REUTER, it is feared that the disease could spread to other areas because vaccine and the necessary medicines to combat the disease are lacking.

NEPAL

Cholera Linked to Monsoon, Poor Drainage

90WE0273B *Kathmandu THE MOTHERLAND*
in English 12 Jul 90 p 3

[Article: "Attention Please"]

[Excerpt] Residents in some localities in the Ward Number 20, especially from Maru Ganesthan to Jaisidewal of the Kathmandu Nagarpalika, have had to live in continuous, inconvenience due to stoppage of sewerage since the last couple of years. All efforts to clean up the sewerage by various means, including the use of hose, were of no avail. But fortunately about a month ago the Drinking Water Corporation did a good job of taking out the human excretion and other waste by digging the road itself and this has been done after a lapse of 30 years if the local residents are to be believed. It seems the sewerage system in the locality, as in the most part of Kathmandu city, needs to be completely overhauled and renovated.

Residents felt happy and relieved of the perennial problem of sewerage clogging after the excretion and waste were taken out. But now they have to live with another problem: the spectre of walking in the muddy and slippery road.

For about a month now people walking there have had to perform acrobatic exercises while coming out or going in to their houses. The road resembles a paddy field. People have been forced to use lanes and by-lanes even for motorbikes. The hardest hit are the patients who have to go to hospitals or doctors since no vehicle including, car can enter the locality.

Will someone give a serious thought about it and try to relieve the people of their inconvenience by at least graveling the road?

Good and Bad

By the looks of the dark clouds enveloping the valley and the intermittent rains lashing and deluging the capital city day and night, it seems that the monsoon season has finally arrived in the country in its full fury. Its coming, no doubt, has been a source of great relief to the Kathmanduites who, for the past two months, have been sweating and fidgeting under the glare of the hot pre-monsoon sun. Also, they no longer have to face the occasional whirlwinds that used to hit them with dust and fine grains of sand while walking in the many lanes

and by-lanes of the city. Apart from that, the localities that are going through a taxing period of water shortage must be heaving a sigh of relief since there is a strong belief that the monsoon rains would be replenishing the various water cistern areas around the valley that had been going through a lean period during the pre-monsoon season.

However, on the other hand, with the woebegone conditions of the streets and the drainage system prevailing right now in the capital, there is every chance that the city dwellers would not only have to negotiate through the numerous puddles and potholes while walking the streets but have to bear stoically the slush and garbage that would be whirling around their feet and their localities. Moreover, there is every danger of leakage of the water pipes, thus facilitating contamination. The number of cholera patients visiting the various hospitals is there for all to see. And thank goodness, we have, until now, yet to hear of casualties caused by collapsing houses due to the rains.

In other words, every season. But as rational beings, is it not time that we (and the concerned authorities) make a concerted effort in minimizing the bad effects and in the process, adding more amenities to the facility-starved city? [Passage omitted]

Too Late?

The earlier summer premonition of some deadly epidemic visiting us was not without reason, for a long time we have not seen a single year free of an epidemic of any kind.

These days, we are standing as helpless witnesses of a pervasive epidemic in the form of gastroenteritis and cholera mercilessly killing the more vulnerable and threatening the lives of the others. In fact, everyone of us is vulnerable to these deadly diseases because, if some doctors are to be believed, our drinking water which is believed to have been adulterated with the sewage supply lines that run along with the water pipes is carrying the germs to every kitchen. And the ones who don't drink boiled water are always potential victims of the diseases that have hit the country presently.

The current epidemics may not be only the result of the polluted water but stale and adulterated restaurant

foods, on which most urbanites depend on lunch, and a number of stinking mounds and heaps of garbage in and around the town.

It has been along while since we initiated an all-out battle against dirt and other city garbage that germinate deadly germs during the summer season. But it seems we are only fighting a loosing battle.

The fear psychosis the present threats have aroused among the health-conscious people in the country has reached alarming proportions. Is it not hightime that our health utilities join hands to fight these epidemics before it becomes too late?

Gastroenteritis Reaching Epidemic Proportions

90WE0273A Kathmandu *THE MOTHERLAND*
in English 12 Jul 90 pp 1, 4

[Article: "Gastroenteritis Still on the Increase"]

[Text] Kathmandu Valley is still in the grip of gastroenteritis epidemic.

Altogether 150 gastroenteritis patients were admitted to the Teku hospital in the last 24 hours. Of them, 120 were hospitalized and the rest were sent back home after necessary treatment at the out patients department.

According to a spokesman of the Health Ministry, a review of the data of this month has revealed that 1,689 patients have been admitted to the Teku Hospital so far and this number is three times higher than the previous year's.

Similarly, the number of gastroenteritis patients admitted to the Kanti hospital is two and a half times higher than in the last year. 825 patients have been admitted there so far.

The Patan Hospital and the Bhaktapur Hospital have 171 and 110 gastroenteritis patients respectively. These numbers, however, are lower than that of the last year.

During the stool test of 95 patients, 26 were found infected with cholera bacilli.

While testing drinking water around Kalimati, Putali-sadak and Chhetrapati area, 75 to 100 percent water in these areas has been found unsatisfactory.

Riga Institute Develops New Anti-Cancer Drug
*PM0708151990 Moscow Television Service in Russian
 1430 GMT 3 Aug 90*

[From the "Vremya" newscast: Report by N. Kasyanova, A. Zanderson, identified by caption]

[Text] [Newscaster] A whole range of new medicinal drugs has been developed at the Latvian Academy of Sciences Organic Synthesis Institute.

Reporter: Latvian scientists studying natural, biologically active substances have obtained the latest, entirely original drugs, highly effective in the treatment of cardio-vascular ailments—"Foridon" and "Mildronat," and the anti-cancer drug "Leakadin". [video shows samples of "Foridon" and "Leakadin" and highly sophisticated laboratory equipment] The latter has shown itself to be a potent immunological regulator, capable of greatly enhancing the resistance of an organism weakened by illness.

Academician E.A. Lukevits, director of the Latvian Academy of Sciences Organic Synthesis Institute: It can be used as a monotherapy in the case of specific tumors, and also in combination with other treatments. However the main point is that it strengthens people's immune system. Therefore we have now developed another form of it. Its capacity as an immunological modulator in some skin diseases, for instance psoriasis, and others is being further studied. So far we are receiving positive reactions from clinics.

Reporter: I have heard that, quite unexpectedly, very interesting results have also been achieved with it in the treatment of lung diseases.

Lukevits: Yes, that sometimes happens, when clinical tests are being done on treatment for a specific ailment and the patient is suffering from another disease at the same time. It can happen. The drug has been used for the treatment of skin diseases and certain lymphomas, but one patient happened to have tuberculosis, and what is more, at a stage where drugs were no longer effective, and it turned out that while his skin was being treated, after two courses of the treatment, his lung condition improved considerably. That is just an initial observation so far, but I think we will investigate this area too, since this is an interesting property.

In general, as an immunomodulator, this drug, Leakadin, has a specific property—it works on T-lymphocytes. These are the ones which are affected in AIDS virus infections. Therefore there may be a possibility of using this drug in the future in the immunotherapy of this ailment. Here, further clinical tests will be necessary. But this drug is already being used in the treatment of cancer.

Professor V.V. Utkin: We were offered Leakadin, and have carried out tests on more than 100 patients, who had had surgery for minor cancer conditions with the subsequent application of Leakadin. The results were very promising.

Reporter: The Organic Synthesis Institute is one of the republic's youngest scientific research centers. More than 60 medicinal drugs have been developed at the institute by its scientists and medics. [video again shows sophisticated equipment] The Riga scientists' drugs are exported to 14 countries including Japan, the United States, and France.

Yeast-based Hepatitis-B Vaccine at Testing Stage
*PM0108090990 Moscow Television Service in Russian
 1430 GMT 29 Jul 90*

[From the "Vremya" newscast: Report by A. Fedorovich, identified by caption]

[Text] **Newscaster:** Genetic engineering is a scientific field that is developing quite rapidly in many countries of the world. Soviet scientists have also made interesting developments.

Fedorovich: [video report comes from the USSR Academy of Sciences M.M. Shemyakin Bioorganic Chemistry Institute] This vessel contains the concentrate of a new preparation on which Soviet scientists are pinning considerable hopes. It is a genetically engineered vaccine. At present there are only a few thousand doses of it, against the hepatitis B virus. A great deal is already known about this virus, but no one has yet succeeded in conquering the disease. The vaccine serum is now ready on an experimental basis. What next? That is a question for you, Igor Viktorovich.

I.V. Krasilnikov, director of "BIOVTI" [expansion unknown] subsidiary: Next, we will have to prove it by means of various tests that the WHO has developed specially for genetically engineered preparations. Then we will have to carry out checks on a limited number of volunteers, and only then can the vaccine be used by clinics and within our country's health service.

Fedorovich: Original technology which researchers from a number of the country's scientific centers have developed has enabled the vaccine to be produced. At first there were few people who believed that bakery yeast, well-known to every housewife, would be useful for these purposes. However, the inoffensive substance made up of microscopic microorganisms proved simply fantastic. Scientists succeeded in removing a fragment of the B virus' DNA—the gene responsible for surface antigen synthesis. It was then incorporated into a yeast microorganism strain which also produced the desired protein. One of the requisite proteins was then purified and was of crucial importance in the manufacture of the new vaccine. A biotechnological vaccine has many pluses—two main ones. First, complete safety: It contains absolutely pure proteins. And, second, today's sophisticated technology makes it possible to design a vaccine with any structure. We note that hepatitis virus statistics are extremely unfortunate. Some 300 million people worldwide suffer from chronic forms of or covert, latent hepatitis B.

Cholera Outbreak Noted in Stavropol Kray

90US1226AZ Moscow *PRAVDA* in Russian 1 Aug 90
Second Edition p 6

[Article by *PRAVDA* correspondent V. Pankratov:
"Cholera From 'Rodnik'"]

[Text] The "Rodnik" campsite on the outskirts of Stavropol has acquired a certain ill fame. It was there that several days ago one of the people staying there was diagnosed a cholera case.

Local medical personnel were able to evaluate the situation correctly as they displayed their professional preparedness to the maximum. The kray sanitary and epidemiologic station provided an exact, speedy diagnosis. It worked in close cooperation with the scientific research anti-plague institute of the Caucasus and Transcaucasia located in Stavropol. The institute has very good laboratories and that helped in the examination within just a few hours of a large number of people that required special attention. In this way any possibility for the infection to spread was removed.

People of whom there was even the slightest suspicion had to be quarantined. At present there are 45 cholera patients. Some of them are Syrians who lived at the campsite while they were helping build a hotel complex in Stavropol. Not everybody, of course, contracted the disease, but the quarantine includes the entire facility, which belongs to the kray council for tourism and excursions. All the 192 people staying there have been isolated. But then they did not have to quarantine Stavropol; the city is safe.

The RSFSR [Russian Soviet Federated Socialist Republic] deputy minister of health and chief state sanitary official of the RSFSR, Ye. Belyayev, came to the city immediately. Here is what he told us:

"The biggest problem was to locate those who had been staying in the campsite when the situation became critical. There is quite a large number of them—733 names and addresses of visitors were reported to the sanitary and epidemiologic control services in the places of their residence. And it was not in vain: Five carriers of the cholera vibrio were discovered in Barnaul, three people brought the infection to Perm, and two were found in Krasnodar. Some other cities and villages were also involved. The distressing geographical spread turned out to be quite extensive. It includes 11 union and seven autonomous republics, and 23 krays and oblasts. But this is clear to some extent. But some things are still unclear. We found out that some of the people visiting the campsite did not register according to the rules. Some people were allowed to spend the night there without following the regulations. If those people do not make themselves known of their own free will, further events may turn out to be rather unpredictable. It is important to help them come into the open. We can rely

on their conscience only. Those who are hiding should understand that they are risking other people's health, not only their own!"

It has been established that the problem stems from the spring flowing from underground near the campsite. This spring heavy rains in Stavropol caused landslides and that damaged the sewage systems. The pipes started leaking and allegedly that was how the infection seeped into the spring water.

The cholera source is now being localized. The kray sanitary and epidemiologic station has the situation under control. Permanent chlorination of the spring water has now begun where it all started. The Mamayka River, which receives the spring water, was also declared unreliable. Nobody is allowed to use its water, not even for watering vegetable gardens or orchards. The sewers and sewage systems, as well as all public conveniences, have been disinfected.

And what is the condition of the first victim? We mean Igor Taburkin, 23, from the city of Serov of Sverdlovsk Oblast. He started the list of cholera patients. His condition was critical, but the treatment chosen by his doctors with the participation of highly qualified experts proved to be correct. The patient is feeling much better.

Syrian Workers Thought To Be 'Source' of Cholera Outbreak

PM0608124790 Moscow *IZVESTIYA* in Russian 1 Aug 90 Morning Edition p2

[L. Ivchenko report: "Stavropol: Nidus Localized"]

[Text] A guy came to call on his brother serving in one of Stavropol's troop units and... almost died: He caught cholera from the spring at the "Rodnik" ["Spring"] campsite. He was not the only one to drink this water either... Newspapers, radio, and television have described the incident which threatened to become an epidemic—people visiting the seat of the infection have, after all, dispersed to dozens of regions all over the country!

How are events developing now, is there still a threat of a mass outbreak of this extremely dangerous disease? This is what A. Kondrusev, USSR deputy health minister and USSR chief state sanitary inspector, had to say:

The seat of the infection has now been localized thanks to the medical personnel's efforts. It is to the credit of Stavropol's medical personnel that they rapidly grasped the situation and—and this is the main point—took effective emergency action. It is, after all, only 10 days since the first alarm signal, and more than 1,000 people have already been screened and steps have been taken to observe previous visitors to the campsite, for which it was necessary to trace their movements and report the emergency in 64 of the country's population centers. This is very difficult—it is one thing to eliminate a constant source of infection and another when there are

sufferers or carriers of the infection with their numerous contacts and when the main task is to flush them out and not let them slip through the net. An operational headquarters has been set up in Russia headed by E. Novitsyna, RSFSR [Russian Soviet Federated Socialist Republic] deputy minister, while Ye. Belyayev, RSFSR chief state sanitary inspector, is monitoring the steps taken in Stavropol. The epidemiological situation is still tense and medical personnel must be on the alert. For instance, three out of seven people in Perm who stayed at the campsite have been infected and have become carriers of the cholera vibrio. A previous visitor to the campsite who learned about the situation at "Rodnik" in the press turned to medical personnel in Moscow—not in vain, it transpired. Some 27 people have been screened in Mariupol where a group of 30 children went—they have, fortunately, escaped up to now...

This is the state of affairs as of 30 July: Some 114 people have been hospitalized in Stavropol, 49 of them suffering from the disease, including 14 children. The sufferers include 11 Syrian citizens, who came here to work on construction. Several Syrians have proved to be vibrio carriers—they are outwardly healthy but are emitting the cholera vibrio, and are therefore most dangerous. In the opinion of the Russian staff, they were also the source of the outbreak. The upper water-bearing strata of the soil was contaminated owing to nonhermetic sewer systems, and contaminated water gushed out of the spring.

The campsite is now an observation unit—something akin to a quarantine zone for its visitors. They are living normally here, but will only be able to leave their enforced home after preventive treatment and with physicians' permission. Medical personnel are disinfecting the spring and the sewer systems, and screening the reservoirs below the spring. Mega-vigilance is what is needed: After all a variety of the "Ogava" type "El Tor" cholera has been detected at the "Rodnik" campsite. The vibrio was given this name after the border point in Africa where it was discovered in a pilgrim early this century. This variety of cholera is more serious and, what is more, the vibrio is particularly hardy, it can exist for a long time in an external environment, outside the human organism. Screening of the reservoirs has shown that they, fortunately, do not contain the vibrio. And Stavropol is carrying on its ordinary, ordered life.

Suspected Cholera Cases 'Isolated' in Uzbekistan

*PM0608105390 Moscow PRAVDA in Russian 3 Aug 90
First Edition p 1*

[Own correspondent A. Kaipbergenov report under the rubric "Reporting Details": "Another Outbreak?"]

[Text] Tashkent—During a mandatory examination at the infectious diseases hospital in the town of Kattakurgan, Samarkand Oblast, the cholera bacillus was discovered in nine patients with acute intestinal disease—six of them children.

PRAVDA's correspondent contacted S. Vakhramov, Uzbek SSR [Soviet Socialist Republic] health minister, who is currently in Kattakurgan. Here is what he said:

"They are not showing any of the typical clinical symptoms of cholera. Their condition is satisfactory; however, taking account of the isolation of the cholera vibrio among them, the group has been isolated in a special building at the infectious diseases infirmary. They are under medical observation and are receiving full and appropriate medical care. The likeliest cause of the infection was a failure to observe hygiene, and contact with open water tanks."

I would add to the above that the republic's newspapers yesterday published a decree by Uzbek SSR President I. Karimov on improving supplies of drinking water and natural gas to the Uzbek SSR's rural population. It envisages tripling the volume of water supply work. Some 1.7 million citizens will be supplied with drinking water from a pipe network in 1990-1992.

Diphtheria Outbreak in Moscow

*LD2408081290 Moscow TASS in English 0750 GMT
24 Aug 90*

[Text] A sudden outbreak of diphtheria has claimed the lives of eight people in Moscow, the MOSKOVSKAYA PRAVDA newspaper reports today.

It quotes Nikolay Filatov, from Moscow's sanitary epidemiologic station, as saying that a total of 154 diphtheria patients have been registered in the city. These include 121 adults and 33 children.

Filatov claims the epidemic on the reluctance of Muscovites to undergo preventive injections because of the vaccine's low quality and the lack of disposable syringes.

In the first half of the year, Moscow medical institutions received only 11 million syringes instead of the required 47 million.

Chemical Plant Explodes in UFA

Residents Evacuated

*LD2308150590 Moscow Domestic Service in Russian
1356 GMT 23 Aug 90*

[Text] The following report has just come in from TASS: A new installation producing phenol acetone at the Ufa synthetic alcohol works has blown up during start of work. Despite the efforts of firemen the fire burned all day. As a result 25 people have received serious burns and injuries. Eleven of them have been taken to the republic's burns center. Doctors are worried about the condition of two people. Water supply taps have been turned off in residential houses and enterprises producing foodstuffs have been brought to a stop. Phenol has got into the River Ufimka from which water is taken for the needs of the city with its million-strong population.

Bashkiria's minister of public health has said that residents of Novyye Cherkassy have been urgently evacuated. It is situated 15 km from the works. The wind has carried dangerous products of combustion and hydrocarbons in its direction. Signs of phenol poisoning have been observed in some firemen and people who were situated close to where the explosion happened. The residents of Blagoveshchensk, in the direction of which the wind might turn at any moment, have been warned of the possible danger.

The causes of the incident will be established by a special commission.

Water Supplies Cut

*LD2408120190 Moscow TASS International Service
in Russian 0928 GMT 24 Aug 90*

[By correspondent Raul Turkvatullin]

[Text] Ufa (Bashkir ASSR, Urals)—Reconstruction work has begun at the synthetic alcohol works, where an installation producing phenol acetone blew up on Thursday. An emergency commission has been set up in the Ufa city soviet, in which Soviet and trade union staff, leading specialists of medical and nature preservation institutions are part. By their decision, today has been declared a non-working day for most enterprises and institutions in the southern part of the city.

According to the latest information, after the explosion 110 people were hospitalized. Most are firemen who took part in putting out the fire which raged for over five

hours. In the opinion of doctors, the condition of three people is giving cause for serious concern.

Two-thirds of the city, which has a population of one million, are without water today. The city's water intake has been turned off—a whole blend of various chemical mixtures was washed by the foam of dozens of fire engines throughout the whole day from the territory of the petroleum chemical works into the river Ufimka, which supplies the city with its drinking water.

Clean drinking water has been brought efficiently in special tanks to bakeries and other enterprises producing foodstuffs, and the transport of produce from other regions of the republic has been organized. All medical institutions and first aid centers have been switched over to working in emergency situation conditions. Four thousand patients are being evacuated urgently from Ufa hospitals to outside the city limits.

"This is not the first such accident in Ufa," Aldzhet Turyanov, minister of health of the Bashkir ASSR, reminded the TASS correspondent. "At the beginning of April, untreated drainage waters from the Khimprom association, which produces herbicides and is situated next to the culprit of the present accident, got into the city's water intake. Almost two-thirds of the inhabitants of the city were in a disastrous situation then—for a long time they used drinking water which was contaminated to a high degree by phenol and its derivatives. Through the negligence of the leaders of the enterprise, people were told of what had happened only on the third 24-hour period after streams of poison, causing acute illnesses of the kidneys, liver, and cancer, had been poured out of store-houses flooded by spring-tides. But the lesson has not been learned."

CANADA

Firefighter Cancer Incidence After Chemical Fire

90WE0288 Toronto *THE TORONTO STAR*
in English 10 Jul 90 p A10

[Text] Kitchener—A fourth person has died of cancer since a chemical fire in Kitchener more than three years ago.

Capt. Ed Stahley, 57, a firefighter for 29 years, died Sunday of liver cancer at St. Mary's Hospital, a spokesman for the Kitchener Professional Firefighters' Association said Monday.

Two other firefighters and one police officer also have died of cancer since being at the March 1987 blaze at Horticultural Technologies, which used various chemicals to make foam for floral arrangements.

Waterloo Region Police Sgt. Lloyd MacKillop, 46, died last May, less than a year after being diagnosed as having kidney cancer.

The other firefighters who died of cancer were: John Divo, 45, last April; and David Ferrede, 32, in June, 1989.

Another 13 firefighters have developed cancer. One was diagnosed with skin cancer last week.

The provincial labor ministry is investigating the rates of cancer deaths and illness among those who were at the fire.

Sixty-nine firefighters and 16 police officers were at the Horticultural Technologies fire, which belched clouds of toxic smoke, forcing the removal of about a dozen people from a nearby office and sending at least five people to hospital.

Stahley was one of the first at the fire and remained until it was extinguished 10 hours later.

The early morning blaze destroyed the plant, though firefighters managed to keep drums of acid from exploding. Sulphuric acid, pesticides and aerosol paint were among the chemicals at the plant.

Firefighters have said they were at the blaze for an hour before a plant manager supplied a list of chemicals stored at the plant.

Some have said they could have better protected themselves if they had known what they were dealing with.

National Bacterial Research Network Inaugurated

90WE0287 Vancouver *THE SUN* in English
12 Jul 90 p A9

[Article by Anne Mullens: "Fighting Harmful Bacteria Is Target"]

[Excerpts] Finding new ways to fight bacteria, such as the antibiotic-resistant strain that killed muppeteer Jim

Henson, will be one of the targets of a new Canada-wide bacterial research network inaugurated Wednesday at the University of B.C.

"It is so important that we stay a step ahead of bacteria—we don't want to be in a situation where our arsenal of antibiotics is no longer effective," said Bob Hancock, professor of microbiology at UBC and the scientific director of the Canadian Bacterial Disease Network.

The new network, which will unite basic researchers in universities with researchers in industry and governments, aims to bolster basic research as well as develop ways to control bacterial organisms that continue to cause life-threatening human diseases and losses of millions of dollars in agriculture and aquaculture.

In a signing ceremony Wednesday with federal Justice Minister Kim Campbell, \$18 million was awarded to the network for the next four years to carry out its studies, which will include basic research to expand knowledge of bacteria as well as product development such as new or improved vaccines, diagnostic kits or new antibiotic treatments. [Passage omitted]

One of 15 networks announced last fall through the Networks of Centres of Excellence, the CBDN will be managed out of UBC's department of microbiology, and bring together more than 30 researchers from seven universities, including the University of Victoria, five biotechnology industries and two government agencies. [Passage omitted]

Hancock said that while antibiotics have saved countless lives, their presence has also contributed to an assumption that problems with bacteria were solved and no further research was necessary.

"Now we have some catching up to do," he said.

Under the network arrangement, the primary researcher and the university he or she works for maintains ownership of "intellectual property" but industries in the network have first bid to develop products.

Cases of Illness Caused by E Coli Bacteria in Calgary

90WE0261 Ottawa *THE OTTAWA CITIZEN*
in English 19 Jun 90 p A3

[Text] Calgary (CP)—The condition of a toddler who contracted hamburger disease is deteriorating, her doctor says.

Alisha Paul, 2, was moved to the intensive care unit of the Alberta Children's Hospital Monday as a precautionary measure, said pediatric specialist Dr Lane Robson.

Alisha and her twin sister Amie were admitted to the hospital with hamburger disease 10 June, four days after sharing a hamburger at a fast food outlet. Amie was released Sunday.

Alisha's condition developed into hemolytic uremic syndrome, a condition that is fatal for the five to 10 percent of those who contract it. It has also caused a form of diabetes.

"Her condition is deteriorating, she's in worse condition now than when she came in," Robson said Monday.

Hamburger disease is a potentially-fatal illness triggered by *E. coli* bacteria that flourishes when meat is undercooked.

Calgary Health Services director John Pelton said the restaurant where the twins ate has been cleared as the source of the disease.

So far this year, 15 cases involving *E. coli* bacteria have been reported in Calgary.

Health Status of Native Canadians Studied

90WE0259 Ottawa *THE OTTAWA CITIZEN*
in English 27 Jun 90 p A13

[Excerpt] Toronto (CP)—The health status of native Canadians has improved dramatically in the last 30 years, public health officials say.

But natives still can't expect to live as long as other Canadians and their children die in infancy much more frequently, they say.

"Life expectancy is about 10 years less than the average in Canada," Ellen Bobet told the Canadian Public Health Association's annual meeting Tuesday.

If born in 1991, a native man could expect to see his 65th birthday, while the life expectancy for non-native Canadians is 74, the same figure given for Indian women. However, other Canadian women can expect to live past 81.

The lower life expectancy for natives is partly tied to infant death rates, which are "more than double the national rate," said Bobet, a statistician with Health and Welfare Canada.

Accidents and violence—involving motor vehicles, fires, drowning and suicide—are a major cause of death for native Canadians, she said.

"Between 1984 and 1988, accidents and violence accounted for a third of all Indian deaths," she said. "For all the age groups up to age 65, Indian people were at least four times as likely as anyone else in the Canadian population to die from accidents or violence."

Heart disease and stroke affect native and non-native Canadians about equally, and remain the country's No 1 killer. But respiratory diseases such as bronchitis and pneumonia kill more than twice as many natives as in the population as a whole.

"But even when they (natives) die from the same diseases as the Canadian population in general, they tend to die from them at younger ages," Bobet said.

However, the trend is reversed when it comes to cancer. The overall cancer death rate is 17 percent lower for native women and 45 percent lower for native men compared with the national average.

A study of Inuits in the Northwest Territories and northern Quebec and Labrador, for instance, showed a dramatic difference in mortality rates from breast cancer, the leading cause of cancer death among Canadian women. [passage omitted]

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